VINDICATOR

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IN THIS ISSUE. . .

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EDITORIAL – A LITTLE FINE
TUNING
by Michael Friend

This isn't so much an editori-
al as it is a listing of some
changes that will be made to the
journal to fine tune it into a
better publication. I made the
mistake of setting a rigid policy
before getting any input from
subscribers on how to improve
this rag, and after finally re-
ceiving some positive feedback I
have agreed to make some changes.

The first change is one of
necessity rather than construc-
tive criticism and will affect
all present and future subscrib-
ers. I have recently had a small
problem with my bank and will no
longer be able to accept sub-
scription checks made out to what
I thought was going to be my
company name, "Metron Press."
Yes, I was able to successfully
deposit some of the early charter
subscriber checks made out to
Metron Press, but I will no long-
er be able to do that from now
on. So, I will discontinue pub-
lishing **Vindicator** under the com-
pany name of Metron Press. In-
stead I will continue to edit and
publish it privately under my
personal name. That also means
that all future subscription and
resubscription checks for **Vindi-
cator** should be made out to me,
"Michael Friend."

As you can see, the name
change has already been made to
the masthead under the table of
contents. In addition, I am try-
ing to change all the classified
and display ads that I already
placed with other gaming publica-
tions so as to reflect this name
change. This will take a few
months to perform but should be
finally straightened out soon.

One change suggested, and that
I heartily agree with after re-
minding myself of the reason be-
hind this journal, is to slightly
expand the journal's game cover-
age to include the old fantasy

board games. Even though there were not quite as many fantasy board games published as science fiction board games, that's no reason to exclude them. They seem to be suffering from the same neglect as the science fiction board games. And since the main purpose of this journal is to promote the continued enjoyment of the old non-historical board games that are being shamelessly ignored by current gaming publications (no profit in it?), I think it's quite fitting and reasonable for **Vindicator** to help keep fantasy board games alive as well. So, if you have any ideas for articles about the old SPI, TSR, Avalon Hill or any third world fantasy board games, the new official editorial policy of this journal is that I will now accept articles on that additional subject. Remember though, except for the Metagaming RPGs, I still will not accept or publish articles covering any of the recent science fiction or fantasy role playing games.

Still another suggestion was cosmetic in nature. My intention from the beginning was to pack as much information in the twenty-eight pages of each issue as possible so the subscribers could get their money's worth of articles. It's really amazing how fast that space can fill up, and that was why I at first rejected the inclusion of artwork in the journal. I didn't want to take up valuable limited space with frivolous pictures. But one subscriber pointed out that it could be difficult and monotonous to read page after page of just text without something to break it up periodically. A small illustration such as clip art or even a few blank lines inserted between sections or articles could relieve the tedium of an all-text journal.

I appreciated the asthetic nature of the suggestion and from now on will try to allow for a little more breathing room between articles by inserting art work or white space when appropriate. Also, I'll begin articles at the top of pages or columns rather than part way through them like I did in the first issue. Hopefully this will make for a more user friendly journal while at the same time retaining space for all the articles.

In the first issue I mentioned that I was eventually hoping to pay my authors for their efforts. I probably won't be able to start doing that for at least another year but this is how I decided to handle submissions.

I can publish articles in one of two ways, author's choice. If the author wants to retain all rights to the article so that he-/she could attempt to get it published again somewhere else at a later date, I will be glad to publish the article in **Vindicator** for free. In other words, if I do not pay my authors for their work, then all published submissions will remain the property of their respective authors.

If an author wants to get paid for their work then we will draw up and sign a simple contract that will give me all rights to the article. Payment will probably be anywhere from a half cent to a cent per word, but I haven't really decided yet. Just don't expect to become rich writing for **Vindicator**.

But first, this journal has to start making a profit for me before I can start paying others. Until that happens (and I'll announce it when it does) I won't be paying anyone. So until further notice all articles submitted to me will remain the property of their authors to do with as they please.

I think this is a fair system. The author must decide which is more important, getting paid for their efforts or retaining control over their work. Decisions, decisions.

Invasion of the Air-Eaters - Expanded Sequence of Play
by Jim McNulty

[Ed. note: This is our first play aid, an expanded sequence of play for a Microgame that lists all the things that can be done in a turn phase, as well as giving little reminders when needed. Easy to read charts and tables are also included. A similar treatment for *The Air-Eaters Strike Back* will be published in a future issue and Jim says he could produce other such play aids for still more games.]

I. Atmospheric Conversion (Alien Only)
Reduce Atmospheric Index (AI) one for each deployed AC
If AI reaches 10 or less Terran stacking & movement restrictions are lifted
If AI reaches 5 or less Terran Armies may not attack
If AI reaches 0 the game ends in Alien Victory

II. Alien Production
Each deployed base in land hex produces 1 new Alien unit
Each deployed base in all-sea or Antarctica hex or MS produces 1 new unit on die roll of 1-3
Alien may voluntarily destroy units to be immediately rebuilt

III. Deployment of Bases and ACs
Face-down (undeployed) bases and ACs may be turned face-up (deployed)
Only 1 deployed base per hex   Only 1 deployed base on MS
Only 1 deployed AC per land hex (not all sea, not MS)
Deployed bases or ACs may not move

IV. Movement
A. Initial Beaming
Unlimited CW, LN, undeployed bases and ACs may be moved from base to base via the MS base
ESC may not be beamed   No beaming allowed if MS is destroyed
B. Terran Transport
Up to 2 Western Armies and 1 SOV Army only may move any distance to any land hex
    No other Armies may be transported
    Armies may not be transported into or out of all-land hexes in Antarctica
LB, LT, DB and DT may move any distance to any land hex
C. Crawlers
Each CW may move 1 hex regardless of terrain   CW only: all northern and southern edge hexes are adjacent
SF or ISF in part land-sea hex may make transit attack if CW entered by all sea hexside
D. Terran Movement
Each Army, LT and DT may move to an adjacent land hex through a land hexside (incl. Antarctica)
Each SF and ISF may move unlimited distance to an all or part sea hex
Each SAF and CORV may move any distance to the In Orbit box or any land hex
E. Landers
Each LN may load 1 CW, undeployed base or AC in its hex or In Orbit, move any distance to any type of hex or In Orbit, and unload

The MS may crash-land on any hex:
   MS, all units in MS, all units in hex (incl. IUs & OUs) are destroyed/devastated
   Destroyed Armies may not be rebuilt.   No Alien beaming allowed after crash
ESC may land on any hex, does damage as if CW fires (affects all units in hex), then is eliminated
F. Final Beaming - Same as Initial Beaming

V. Combat
   A. Aliens Fire
      Each CW may fire at a terran unit in its hex
      Each ESC and the MS may fire at a Teran Unit in the In Orbit box.
   B. Terrans Fire
      Each surviving Terran unit may fire at an Alien Unit in its hex or space box
      If LN is adjacent to Army in land or part-land hex, Army (Air Force) may fire and hit with die roll of 1-3
      Terran space units may not fire while on surface hex
      If MS is destroyed all units in MS box are destroyed

VI. Terran Production
   A. Count undevastated IUs for current turn production (45 minus devastated IUs)
   B. Count undevastated OUs and add to Oil Reserves (45 minus devastated OUs)
   C. Allocate IUs & OUs to Research & Development, new unit production, repairing IUs and Atmospheric Reconversion
      IUs may not be accumulated but may be partially allocated for future production
      OUs are accumulated in Oil Reserves (which may not be devastated)
   D. Place new units on hex with undevastated IUs   New Armies must match nationality and location
   E. Raise the AI by 1 for every 15 IUs allocated to Atmospheric Reconversion

VII. Terran Research & Development
   Roll die for each R&D project in which prerequisites are met and for which 10 IUs have been allocated
   Project succeeds on 1 or 2 (1-3 if die roll modifier applies)

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               Invasion of the Air-Eaters - Additional Rules

SETUP:

   TERRAN:
      Nationality must match location   Atmospheric Index (AI): 20
      2 Armies: 1311   1 Army: 1117, 1312, 1413, 1412, 1614, 1613, 1410, 1813, 1609, 1710
      1 Submarine Fleet (SF): 1323, 1316, 2217, 1807

   ALIEN:
      1 Mothership (MS) with base: In Orbit box with any 10 other units

1ST TURN SURPRISE RULES:
> No Terran Transport, movement, combat or production (OUs added to Oil Reserve)
> No Alien Atmosphere conversion, deployment or beaming

TERRAN VICTORY:
> If the following conditions are met for 2 consecutive game turns (not incl. 1st) then Terran Victory occurs
> (marginal if 6+ nuclear attacks were made)

> 1. No AI increase
> 2. No Alien production
> 3. No Terran unit destroyed
> 4. No IU or OU devastated

OTHER TERRAN MOVEMENT AND STACKING RESTRICTIONS:
> Only Soviet/Eastern Europe (SOV/EE) Armies may enter SOV/EE IU hexes
> Only Chinese Army (CHI) may enter Chinese IU hexes   CHI Army may not leave China
> Only Western (US, NATO, Japan, Egypt/Israel) Armies may enter non-communist IU hexes
> India (IND) Army may not leave India (1813, 1914)
> Iran/Iraq/Syria (IIS) may not move.
> Western, SOV/EE and CHI armies may not stack with each other
> Western and/or SOV/EE Armies may stack with IND
> Only SOV/EE Armies may stack with IIS

> When AI reaches 10 then restrictions are lifted even if AI goes back above 10 by Atmospheric Reconversion
> When AI reaches 5 or less then Armies may not attack

INVASION OF THE AIR EATERS
TABLES AND CHARTS

TERRAN R & D	DIE ROLL OF 1 OR 2 REQUIRED FOR SUCCESS	
PROJECT	PREREQUISITES	DIE ROLL MODIFIER
LASER BATTERIES (LB)	LAND COMBAT THIS TURN	BASE DESTROYED THIS TURN
LASER TANKS (LT)	SUCCESSFUL R & D ON LB ON A PREVIOUS TURN LAND COMBAT THIS TURN	BASE DESTROYED THIS TURN
DISINTEGRATOR BATTERIES (DB)	SUCCESSFUL R & D ON LB ON A PREVIOUS TURN LAND COMBAT THIS TURN	CW DESTROYED THIS TURN
DISINTEGRATOR TANKS (DT)	SUCCESSFUL R & D ON LT AND DB ON A PREVIOUS TURN CRAWLER ATTACKED THIS TURN	CW DESTROYED THIS TURN
SPACE ATTACK FORCE (SAF)	NONE	LN DESTROYED THIS TURN
CORVETTES (CORV)	SUCCESSFUL R & D ON SAF ON A PREVIOUS TURN ORBITAL COMBAT THIS TURN	SAF FIRED AT MS OR ESC THIS TURN
IMPROVED SUB FLEET (ISF)	UNDERWATER COMBAT THIS TURN	ANY ALIEN UNIT DESTROYED UNDERWATER THIS TURN
ATMOSPHERIC RECONVERSION (AR)	AI CURRENTLY < 16	AC DESTROYED THIS TURN

COMBAT RESULTS TABLES

NUMBER SHOWN : DIE ROLL NEEDED TO DESTROY TARGET

LAND, UNDERWATER & ORBITAL COMBAT

ALIENS ATTACKING

FIRING UNIT	TARGET UNIT							
	ARMY	LB,DB	LT,DT	SAF	CORV	SF,ISF	IU	OU
CRAWLER	--	1-6	1-3	1-6	1-6	1-3	1-3	1-6
MS	--	--	--	1-3	1	--	--	--
ESC	--	--	--	1-6	1-3	--	--	--

TERRANS ATTACKING

FIRING UNIT	TARGET UNIT			
	BASE,AC,CW	LN	MS	ESC
ARMY	1	1-6	--	--
LB,LT	1	1-3	--	--
DB,DT	1-3	1-3	--	--
SF	1	1-3	--	--
ISF	1-3	1-6	--	--
SAF	--	1-3	1	1-3
CORV	--	1-6	1	1-6

TERRAN ARMY/AIR FORCE ATTACK AGAINST LN IN ADJACENT LAND/PART LAND HEX : 1-3

TERRAN PRODUCTION

UNIT TYPE	R & D?	IU COST PER UNIT	NO. OF UNITS AVAILABLE
ARMY	NO	30	14
SF	NO	15	6
LB	YES	5	12
LT	YES	5	10
DB	YES	5	10
DT	YES	5	8
SAF	YES	10	6
CORV	YES	10	4
ISF	YES	15	6
AR	YES	15/AI POINT	--
R & D SUPPORT	--	10/PROJECT/TURN	--
IU REPAIR	NO	10/IU REPAIRED	--

Metagaming Combat Systems: A Quick Review
by Michael Friend

Second only to my love of actually playing wargames is my intense curiosity about their mechanics. I enjoy disecting them (figuratively, of course), module by module, and analyzing how they operate. Whether its rules for movement, fire combat, melee combat, leadership and command control, morale, fatigue, supply or whatever, I like to study the separate rules sections of games and examine how they mesh with each other to form a seamless whole meant to accurately portray the chosen war or battle. In a step further I also like to compare similar rules from a variety of games to see if the different designers approached the subject from the same or divergent directions.

It was only inevitable that I would eventually attempt to analyze the Metagaming games in this manner as well. For my first outing in game analysis I have categorized all the Metagaming wargames (both science fiction and historical) by their various combat systems. The RPGs; *Melee*, *Wizard*, *The Fantasy Trip*, *Dragons of Underearth*, *Monsters! Monsters!* and *Starleader: Assault!* as well as *Trailblazer* were not included in this listing. Commentary is provided after the list.

ODDS RATIO (17) - *Rivets*, *Ogre*, *GEV*, *Chitin: I*, *Olympica*, *Ice War*, *Black Hole*, *Sticks & Stones*, *Annihilator*, *Hot Spot*, *Dimension Demons*, *The Lords of Underearth*, *Rommel's Panzers*, *The Fury of the Norsemen*, *Holy War*, *Godsfire* and *The Ythri*

COMPARISON (9) - *Invasion of the Air-Eaters*, *Artifact*, *Helltank*, *Helltank Destroyer*, *Ram Speed*, *Stalin's Tanks*, *The Air-Eaters Strike Back!*, *Stellar Conquest* and *The Ythri*

DIFFERENTIAL (4) - *Holy War*, *Fire When Ready*, *The Trojan War*, and *Godsfire*

ATTACK STRENGTH - *Ram Speed* and *Hitler's War*

ROCK-SCISSORS-PAPER - *One World*

DICELESS DIFFERENTIAL - *WarpWar*

MATHEMATICAL FORMULA - *Command at Sea*

A few cursory observations can be made about this list right away. First, the most prevalent combat system used by Metagaming designers was the well known odds ratio combat results table. It was used in a little over half of the games listed in this survey. The second most popular system used was what I call the comparison system. If you own any of the games listed under that category you can immediately see why I call it a comparison system. Take *Helltank* for example. The attacking unit (not just its attack factor) is cross-indexed, or compared, with the defending unit (not just its defense factor) on the CRT. The number or numbers indexed must then be rolled to get the desired combat result. This system is only slightly altered in *Stalin's Tanks* in which the firing strength of the attacker is cross-indexed with the armor value of the defender to reveal the number to roll. Other well known combat systems, such as the differential and attack strength systems, were used in a very few games, while some experimental systems were only included in single games with moderate success.

Another observation is that four of the games (*Godsfire*, *The Ythri*, *Holy War* and *Ram Speed*) actually use two different combat systems to portray two different types of combat. Two of the games use odds ratio and differential systems, while another

uses the odds ratio and comparison systems, and the fourth game uses both comparison and attack strength CRTs. If a game allows for combat in several environments (such as in space and on the ground) or combat with different weapons or methods (such as missile fire and boarding party attacks), then the use of multiple combat systems in the same game is justified so as to separate the different results that can be achieved. Many of the old SPI games are excellent examples of this principle, using multiple CRTs for personal, armored and artillery combat.

All the combat systems were analyzed according to four criteria; 1) does the combat result affect the defender only or both the attacker and defender?, 2) how many combat results were designed into the CRT?, 3) what are the various results?, and 4) do the results affect a single unit (such as an individual soldier or single vehicle) or a group (such as a squadron, fleet, squad, platoon or army)? My survey revealed some interesting trends.

ODDS RATIO

Of the seventeen games that included the odds ratio CRT, nine had results that affected the defender only while eight had results that affected both sides, a rather even match.

For the CRTs that affected the defender only, three games had only two results (No Effect and Eliminate) while the other six had CRTs with three results (No Effect, Eliminate and Disruption, which reduces the effectiveness of the unit's movement or combat for either a few turns or the rest of the game). The Boarding Table in *Holy War* used a fourth result, Captured. Five of those games had results that affected an individual unit (in which the counter represented one soldier or vehicle), while in the other four games the results affected a

formation (in which the counter represented a squad or squadron).

The eight odds ratio games that affected both sides had a larger number of results per CRT. Only three games had CRTs with three results, while another three had CRTs with five results, two with six results, one with seven results and a final one with eight results. The results ranged from; No Effect to Exchange, Retreat, Eliminate, Disruption, Dust, Wounded, Both Wounded and Lose X Number of units or points from a stack. Because the results could affect both combatants, frequently a single result would be used twice, such as Attacker Retreat, Defender Retreat, Attacker Eliminated, Defender Eliminated, etc. In only one game were the results applied to a counter representing a single combatant while the other seven games applied their results to counters representing formations.

The odds ratio table, being as old as board wargaming, long ago became a standard method to determine battle results from ancient combat on up to modern warfare. Our survey of just these seventeen games shows that it has been used to portray individual combat as well as tactical and strategic combat. The results can be directed to affect the defender only (requiring just a few different results built into the table) or either side in a battle (which means that at least double the combat results must be built into the CRT).

In my considered opinion it is definitely open to debate whether the odds ratio table is still a viable system to portray combat, thirty plus years after it was first introduced. Back when it was first designed it was obviously new and different (especially since it was the only combat system in existence for board games), but since then better and more realistic combat systems have been devised. I'm not an

expert in military history but it seems to me that the various tactics developed over the centuries to deal with advancing military technology, as well as the unique strategic situations and goals of all the wars that humanity has waged on itself, would warrant the use of different combat systems in games that cover different periods.

Back in the early days of Avalon Hill the games in which the odds ratio system were used were generally strategic level games that had counters representing large military formations such as brigades, divisions and corps. A large number of statistics and intangibles were considered when determining attack and defense values of the counters, thus streamlining or eliminating entirely a lot of military procedures that the players would otherwise have to perform during the game. The use of the odds ratio system was also an attempt to streamline the combat and obtain a simplified result. But when such a combat system is applied to tactical level or even personal combat games, as in many of the Metagaming games, then the distinctive flavor of tactical combat is lost and such a game becomes just another exercise in number counting, which the odds ratio system is infamous for.

When designers think they can use an odds ratio system in any game, ranging from ancient combat on up to WW II, modern and beyond, they are implying that all combat throughout history is essentially the same and can thus be portrayed in the same manner for all games. A far less satisfying reason for its use may be that the designer is just being lazy and doesn't want to take the time to design a combat system that would accurately reflect combat in his chosen period. Instead he takes the easy route and just plugs in the good ole odds ratio CRT that all gamers are familiar with and lets it go at that. I'm not really sure what the reason was behind the use of the odds ratio CRT in so many Metagaming games. Maybe they thought that because it was such a well known and "easy" system to use (assuming that the players can do the simple division required), it was only natural to include it in the easy to learn and play Microgames. Whatever the reason, I think that the odds ratio Micros could have been much better if they had alternate combat systems.

I can hear someone say, well, if we don't use the odds ratio system then what can we use? It just so happens that Metagaming designers managed to use six other combat systems in their games and one or more of these systems would do as very nice substitutes with just a few minor rules changes. But before we start making changes let's finish the survey.

COMPARISON

The comparison CRT was the second most popular combat system used in Metagaming games (nine games) and interestingly enough, by its very nature of directly comparing the attacker to the defender, all the results of combat affect the defender only. Eight of the games had only two combat results, No Effect and Eliminate. (A minor exception to this are the Grapple and Ungrapple results in the Grappling Table for *Ram Speed*.) The general procedure is that the player must roll less than or equal to a specified number in order to get the desired Eliminate result. A higher roll is a miss (No Effect).

One of the games, *Artifact*, has an innovative twist on the system that allows for three results. The first roll, on the To Hit table, determines whether the target was hit or missed (in essence, a No Effect) while a second roll, this time on the Hit Effect table, produces either a

Damage or Eliminate result.

Four of these games apply the result to a single unit (soldier or vehicle) while the other five apply the result to a counter representing a group (squad or army). A few of the games, like *Stalin's Tanks* and the two *Helltank* games, were a bit "iffy" to pigeon hole, because some of the counters in those games represented individual vehicles while others represented infantry fireteams or squads, but I finally decided to lump them in the group category.

A cursory glance at the games in this category indicates that the comparison combat system is equally at home with tactical or strategic combat. And though it was used in games ranging from ancient naval to WWII armor to science fiction combat, the comparison system holds up, I think, a lot better than the odds ratio system does when used in similar circumstances. It's one big advantage is that it doesn't require the players to make any mathematical calculation. Just compare the units and roll the die. What could be simpler?

DIFFERENTIAL

Another well known system used by many other companies in their games over the years but utilized by Metagaming in only four of their games is the differential CRT. This system requires even less mathematical ability than the odds ratio system, letting the players simply subtract the defending value from the attacking value in a combat and using the appropriate column on the CRT to roll for the result.

In three of the differential games only the defender was affected, while both sides were affected in the fourth game. One of the defender only games used two results in its CRT while the other two games had a mixture of six different results. The results themselves were the standard No Effect, Eliminate, Disperse and Damage one of three Weapon Systems. Two of the defender only games applied the results to single units while the other applied the results to a counter representing a group.

In the single game in which the results affected both combatants, four results were used; No Effect, Eliminate, Lose X number of Units and End Movement. The results in this game's CRT were applied to counters representing a group.

The number of games using the differential CRT are almost too small to analyze very well though they cover a wide range of history. One game covers man-to-man ancient combat, another covers naval combat while the other two deal with space combat. Again, a very quick cross section that barely shows that this system can be used, quite adequately, in many different situations.

ATTACK STRENGTH

Though used over the years in many other games, the well known attack strength system is only found in two Metagaming games. Both of those games apply the results of combat to the defender only, and those results are No Effect and Lose X number of Strength Points. In those two games the results are applied to counters that represent groups. Once again we have too few games to make much of an analysis with, but since the subject matter spans from the ancient Greeks and Romans to the mid twentieth century, we get just an inkling that this is another versatile combat system that can be used in many situations.

ROCK-SCISSORS-PAPER

The rock-scissors-paper system is extremely old and I get the impression that it was used just to see if a game could be built around it. It's a very dynamic

system and thus affects both combatants in a battle. The outcome is either No Effect or Eliminate and is applied to one unit at a time. This system has been used to enhance other combat systems (usually in the form of die roll modifiers and column shifts) in many other wargames over the years, but *One World* is the only instance I know of its exclusive use. I imagine it was just a fun little experiment.

DICELESS DIFFERENTIAL

The most innovative system on the list, diceless differential, is used in my most favorite wargame of all time, *WarpWar*. At first glance this would seem to be a simple system to build into a game and could easily have been included in many of the games published over the years, but looks are deceiving. As far as I know only one other game besides *WarpWar* uses a diceless combat system (*Lee at the Crossroads*, an ACW game from Simulations Canada), and that game uses it in conjunction with an odds ratio system. The *WarpWar* system works so well because, unlike other games with fixed values printed on the counters, this game allows the players to secretly build their units in almost any manner they want. Neither player knows what the other has until combat is joined. Thus the fog of war is complete.

In combat the players secretly choose their battle tactics, the weapons and defenses they'll use, and the number of power points to allocate to those systems. When the combat notes are revealed then the CRT is consulted and the results applied. Though the results of combat in this game are considered to be simultaneous, the players take turns firing at each other, so the CRT affects only the defender in each round. The results are; Hit on a system, Miss or Escape, which is similar to Miss. Since this is tactical

combat the results are applied to individual units.

The diceless system is unique because it would not work with fixed value counters as found in the vast majority of boardgames. It could only be used in games in which the values and strengths of the units were kept secret from the opposing players. Otherwise the uncertainty of the system is lost. In the history of wargaming, diceless combat has only been incorporated in two games, the differential *WarpWar* and the odds ratio *Lee at the Crossroads*. This indicates that it must be combined with one of the existing systems and cannot be used alone. Because of its neglect, diceless combat is still a largely unexplored and wide open system that could probably be incorporated into many other games, both new and old. It is certainly worth doing a little experimentation with at the very least.

MATHEMATICAL FORMULA

The lengthy mathematical formula (which requires the multiplying, adding, subtracting and/or dividing of a string of various attacker and defender values) hasn't got much usage in the hobby, mainly because gamers probably consider it to be a chore to perform the calculation for each combat attempt. Its use in just one Metagaming game would seem to verify this assumption. Though the system attempts to be fairly accurate and realistic by taking into account the various factors relating to combat, its tediousness far outweighs its chances of greater popularity with designers and players.

Due to its nature as a naval game, Metagaming's *Command at Sea* (not to be confused with the naval miniatures game of the same name recently released by Clash of Arms) applies the results of fire combat to the defender only. The defending ship is either Hit or Missed, and the part of the

ship hit must then be determined. I'm aware that other naval miniatures games, and even *Starleader: Assault!*, an RPG personal combat module, use a math formula to determine combat results, but I've never heard of this system being applied to any level of landbased combat. The evidence seems to suggest that this is neither a versatile nor popular system.

Earlier I mentioned my distaste for the odds ratio combat system. If I were to mention anything about the Microgames that I did not like, it would be the use of the odds ratio system in so many of those games. In most cases I don't think it was appropriate and I believe that other combat systems would work much better to simulate the various types of combat portrayed in those games. Starting with the next article and continuing in future issues I hope to present alternate combat systems for use with those Microgames with odds ratio systems. Obviously you're free to reject my work if you want, but if you think it has merit then please try it and tell me how it works for you.

ATTENTION GAME DESIGNERS! As much as I want to start publishing small games my finances won't allow me that luxury any time soon. I'd like to do one or maybe two games a year but it'll be a while before I can achieve that goal. For those of you who can't wait issue #9 of GameFix from Game Publications Group has announced new wide open game design guidelines to help make the 'zine more viable for the mass market. If you want to learn more and can't get a copy of this issue, mail me a SASE and I'll return photocopies of the guidelines.

An Alternative Combat System for *Sticks & Stones*
by Michael Friend

As mentioned in the previous article I'm not a big fan of the odds ratio combat system. It may have been satisfactory for the early days of board wargaming but since then other combat systems have been developed that are far better.

I especially don't think that the odds ratio system is appropriate for portraying personal combat in *Sticks & Stones* and have thus designed an alternate combat system based on the comparison system (such as found in games like *Stellar Conquest* and the *Helltank* games) that better reflects the special nuances of man-to-man combat that I believe the game was originally meant to convey. A new CRT has been designed and several of the rules sections have been rewritten to conform with that CRT. Any rules in the original booklet that were not rewritten remain intact and can be used without alteration with my new combat system.

NOTE: This alternate combat system requires the use of two six-sided dice (that's 2D6 to you RPGers). Also, the attack and defense values printed on the counters are *not* used with this alternate combat system. The movement allowances are used and the regular movement rules are still in effect.

7.0 COMBAT

7.1 General. If a warrior or dog unit is in the same hex as an enemy unit during its own Combat Phase, it may attack that enemy unit, and then that enemy unit may counterattack. Combat is considered to be simultaneous so that the results of the attack and subsequent counterattack are not applied to the fighting units until both have attacked each other. Attacking is always vol-

untary for both sides.

Briefly, each attack against an enemy unit is done by comparing the weapon being used by the attacker with the armor status of the defender. Two six-sided dice are rolled and the results are added together. The Combat Results Table (CRT) is divided into two sections. The farthest column on the left labeled ATTACKER lists the various weapons the warriors can be armed with, as well as also listing a special row for attacks by dogs and dependents. The larger section, labeled DEFENDER, is composed of three categories, Unarmed Warrior /Dependent, Armored Warrior and Small Animal (dogs and goats). Within each of those categories are columns representing the four combat results, (NE) No Effect, (R) Retreat, (W) Wounded and (K) Killed. The attacker's weapon is cross-indexed with the defender's armor on the CRT and the number rolled on the two dice will fall within the number range of one of the combat results. This result is then applied to the defending unit *after* the defender has had a chance to counterattack.

The defending unit may, at the owner's option, counterattack its original attacker in the same manner. The results of the counterattack are then applied to the original attacker in that fight. No unit may attack or counterattack more than once per turn (exception, see 7.4.3 and 7.5), but it is possible for units to be attacked more than once per turn. (See 7.2)

EXAMPLE: An armored spear unit enters the same hex as an unarmored axe unit. As the attacker, the spear unit uses the Spear line on the CRT and cross-indexes across to the Unarmored Warrior/ Dependent category (since the axe unit is unarmored). The spear unit player rolls an "8" which is a "W" result on the axe unit. The axe unit now counterattacks. It uses the Axe line and reads across to the Armored Warrior category (since the spear unit was armored). The axe unit player rolls a "6" and gets an "R" result on the spear unit. Now that both sides have completed their attacks the results may be applied to the warrior units.

7.2 Multiple Attackers and Defenders. More than one unit may attack a single defender and more than one defender may counterattack a single attacker. A stack of friendly units may enter a hex containing a stack of enemy units (following stacking limits, see 6.1 and 6.2), attack them and be counterattacked. If any warriors or dogs in a hex are attacked, then all enemy warriors and dogs must be attacked. Those enemy units may also counterattack. If the opposing forces are equal in number (two friendly warriors against two enemy warriors, or three friendly warriors against two enemy warriors and one enemy dog, for example), then the phasing player gets to pair off his units against the enemy units and attack them individually. Those enemy units, if they are going to counterattack, must counterattack the individual units that originally attacked them.

If the opposing forces are uneven (one against two, or three against two, for example), then two or more units may attack one of the opposing units. If the attacker has more units, then that player may decide which defending unit to make a multiple attack against, remembering that all defending units must be attacked. When the defending units counterattack then the unit that was attacked by multiple attackers must choose to counterattack against only one of its original attackers.

If the defender has more units, then the attacking player may pair his units against any defending units he pleases and attack them. When the defending player counterattacks he may, at his option, use the units that

were not attacked to join with one or more of the units that were and make multiple counterattacks on the original attacking units. As before, the counterattacking units must fight the enemy units that originally attacked them.

7.3   Stacking Effects on Combat. DELETE!!!

7.4.1   Attacks on Dependents: ADDITION - Attacks on dependents are made using the Unarmed Warrior/Dependent category of the CRT.

7.4.2   Attacks by Dependents: ADDITION - Attacks by dependents are made using the Dog & Dependent line in the ATTACKER section of the CRT. Attacks by dependents on other dependents are made using the Unarmed Warrior/Dependent category of the CRT, while attacks by dependents on small animals (dogs and goats) are made using the Small Animal category of the CRT.

7.4.3   Effects on Warrior Combat: If one or more dependents are in the same hex as friendly warrior units which are being attacked, they can only be attacked in the same game turn if all those defending friendly warriors receive either a "W" or "K" result. If even one defender gets an "NE" or "R" result, the dependents may not be attacked. Furthermore, if one or more defenders gets an "R" result then the retreating units may escort the dependents, one per warrior as per 9.3, with them out of the hex as they retreat.
    If, after inflicting "W" and/or "K" results on all the defending warriors, one or more of the attackers receive combat results from the defender counterattack that allow them to remain in the hex (in other words, "NE" or "W" results), then they may attack the dependents, one warrior per dependent. Any attacker that receives a counterattack result of

"R" or "K" may not attack dependents.

7.5   Goats. ADDITION - Goats are attacked in the same manner as dependents. After successfully inflicting results on the defending warriors that would then allow them to attack the dependents and either drive them out of the hex, wound them or kill them, the attackers may then finally attack the goats. Goats are attacked using the Small Animal category of the CRT.

7.8   Terrain Effects on Combat. Whenever a unit attacks another unit in a rough, woods or stream hex, the attacker's die roll is reduced by two. When an attack is made on a defender in a swamp or fortified village, the attacker's die roll is reduced by three. The die roll is reduced by four if an attack is made in a hex occupied by any two of these terrain features.

8.0   RANGED COMBAT

8.1   General. Spear units may attack enemy units in adjacent hexes as well as in their own hex. Bow units may attack enemy units up to three hexes away. Ranged combat is resolved the same manner as for in-hex combat. One or more spear or bow units occupying the same hex may attack more than one defender, but only if all the defenders are in the same hex.
    Spear and bow units may use ranged combat to join attacks with other friendly units that are in the same hex as defending units, but there is a chance that the in-hex friendly units may be hit by the "friendly" ranged fire. In such a case, the spear and bow units must first roll on the CRT as if they were attacking their allies in the contested hex. The defender chooses which allies are being fired on. If the result is a "W" or "K" then

the in-hex ally *immediately* receives the combat result and is not allowed to make its first attack as it normally would. The defending units, though, may still make a counterattack on any unit that suffered friendly fire.

If the result of friendly fire on the in-hex ally is an "NE" or "R" then it survives and can continue with its initial attack. (The "R" result is ignored and treated as "NE".) The fired or thrown weapon is considered to have missed the ally and continued on its course to a designated defender and the ranged combat unit rolls again for a combat result, this time on the defender.

8.2 Combat Results. Bow and spear units attacking from outside the defender's hex are not eligible to receive counterattacks from the defending units *unless* there are no allies of the bow and spear units already in the defender's hex and engaged in combat with those defenders. This is true even if one or more of the defenders are bow or spear units themselves, since it is assumed that they will be more concerned with the more immediate threat of the enemy units with which they are already face-to-face. But if bow and spear units of one side fire into a hex occupied solely by defending bow and spear units, then those defenders may counterattack by firing back in ranged combat.

8.5 Terrain. Bow units may only fire into or through one woods or village hex. As in non-ranged combat, when a ranged attack is made on a defender in a swamp or fortified village, the attacker's die roll is reduced by three. The die roll of bow and spear units making ranged attacks *from* a rough, woods or stream hex is not affected, but a ranged attack *into* such a hex is reduced by two. In addition, the die roll of bow and spear units making

ranged attacks into or through a woods or protected village hex is reduced by two. All terrain effects on combat are cumulative.
EXAMPLE: A bow unit firing at a range of three hexes through a woods hex into a rough hex would suffer a minus four die roll reduction.

9.0 CAPTURE

9.2 Procedure. A unit must first move into the same hex as a unit or stack of units that it is attempting to capture. During the Combat Phase, all enemy warriors and dog units in that hex must be wounded or killed before capture may be attempted. After this has occurred capture attempts may be announced. Each uncaptured dependent against which a capture attempt is made may make an automatic attack against its potential captor by using the Dog & Dependent line of the CRT. No die roll modifiers are made for terrain. The warrior being attacked by the dependent is not allowed to counterattack that dependent.

The attacking player may choose not to attempt capture of all dependents in the hex so that not all can make an anti-capture attack. If the attacker does not suffer a "W" combat result (treat "R" results like "NE") from the dependent attack, then the capture attempt is successful. Goats and goods are now captured automatically if no uncaptured friendly units are in their hex. A capture attempt does not count as an attack but all enemy warrior and dog units must be either wounded or killed (see 7.4.3) before a capture attempt can be made.

11.0 OPTIONAL RULES

11.1 Extended Weapons Range. Bow and spear units may attack beyond their normal range, but at

reductions to their die roll, according to the following table:

Range in Hexes	2	3	4
Weapon Type			
Spear	−1	−2	
Bow	0	0	−2

These extended range die roll reductions are cumulative with normal terrain modifiers.

NOTE: Because of the changes made to the regular combat system, special CRTs and rules are necessary for scenario 12.

12.3 Mastodon Hunt (Solitaire Scenario).

F. Mastodon Attacks. A mastodon always attacks all hunters and dogs in its hex at the end of its movement. When a mastodon attacks it uses the special Mastodon Attacking CRT created only for this scenario. Mastodons may attack up to two enemy units stacked with it during combat. The enemy units may attack the mastodon according to 7.2.

G. Killing a Mastodon. All attacks made against mastodons by warriors or dogs use the special Hunters Attacking CRT created only for this scenario. A mastodon is wounded when it has accumulated six "W" or "K" combat results. A mastodon is killed when it has accumulated twelve "W" or "K" results. Retreat results against a mastodon in a rough or swamp hex count as "W" or "K" results.

I could have designed other alternate combat systems as well, allowing at least one of them to actually use the combat factors printed on the counters. I just may design another such combat system in the future (to further confuse players) or use it with one of the other odds ratio Metagaming games. It is my hope that this attempt at improvement will stimulate further discussion.

Special Combat Results Tables for Scenario 12.3 Mastodon Hunt (ONLY!)

Mastodon Attacking

ATTACKER	DEFENDER					
	Hunter			Dog		
	R	W	K	R	W	K
	2−4	5−9	10−12	2−3	4−8	9−12
Mastodon	2−4	5−9	10−12	2−3	4−8	9−12

Hunters Attacking

ATTACKER	DEFENDER Mastodon			
	NE	R	W	K
Bow	2	3−5	6−9	10−12
Spear	2	3−6	7−10	11−12
Axe	2−3	4−7	8−11	12
Hand	2−7	8−11	12	
Dog	2−7	8−12		

STICKS & STONES ALTERNATE COMBAT RESULTS TABLE

ATTACKER	Unarmored Warrior/Dependent				Armored Warrior				Small Animal			
	NE	R	W	K	NE	R	W	K	NE	R	W	K
Bow	2-3	4-8	9-12		2-5	6-9	10-12		2	3-5	6-12	
Spear	2-4	5-9	10-12		2-6	7-10	11-12		2	3-5	6-12	
Axe	2-3	5-10	11-12		3-6	7-11	12		2	3-5	6-12	
Hand	2-3	4-7	8-12		2	2-5	6-9	10-12	2	3-7	8-12	
Dog & Dependent	2-4	5-8	9-12		2-7	8-11	12		2-3	4-7	8-11	12

NE – No Effect. The defender is unscathed.

R – Retreat. The retreating unit is moved one hex in a direction determined by the owning player, in accordance with the following priorities: a) unoccupied hexes, of any terrain type, b) hexes containing units friendly to the retreating unit, but not in violation of stacking rules, c) off the board, d) fire hexes (if optional rule 11.5 is being used). Units which retreat off the board must return to the hex from which they retreated during their next Movement Phase. If a unit cannot be retreated to one of the above hexes, it remains where it is and is wounded. In any retreat situation, retreating units may voluntarily remain in place and receive a wound. A unit may retreat into a protected or fortified village only if entry conditions (see 10.2 and 10.3) are satisfied.

W – Wounded. The wounded unit is turned over. All attacks made by this unit in future battles have their result reduced in severity by one level for the remainder of the game. All KILLED results are reduced to WOUNDED, WOUNDED reduced to RETREAT, and RETREAT reduced to NO EFFECT. Wounded units otherwise operate normally. Treat a WOUNDED result as a KILLED result if the unit has already been wounded in an earlier fight.

K – Killed. The killed unit is removed from the map board.

Review: *Quest Pack for the Elf*
by Carl Forhan

----- Ratings -----
Components: 9.0
Content: 8.0
Overall: 9.0

The *Quest Pack for the Elf* is one of two elusive supplements produced for Milton Bradley's *HeroQuest* system. It contains thirteen completely new figurines, unlike *Kellar's Keep* or *Return of the Witch Lord*, which both contained only existing enemies. The figures exhibit the same quality as the components in the original set. A nice touch in this area is the introduction of the first enemy with movable arms -- the fearsome Ogre. Not a lot of difference in game play, but it sure helps the toy value of the game. Other enemies introduced in this set are Giant Wolves, Elven Warriors and Elven Archers. The last two figures are the boss enemy for this pack, an Elven Archmage and a Female Elf that may be used in lieu of the Elf provided in the basic set; one could also use the Elven Archmage as a Female Wizard.

Many new cards are also provided, including a new Hero spell group usable only by the Elf! The spells allow some interesting new effects, like Timestop (effectively grants a Hero two full back-to-back turns) and Flashback (allows a Hero to replay his entire turn). New monster, artifact, treasure and Chaos spells are also in the pack. All the cards are the same quality as the original set -- a welcome change from the inferior cards in the *KK* and *RotWL* Quest Packs. This standard of excellence carries over into the remaining components, namely the Quest Book and new board game tiles.

So, what kind of content exists to back up these wonderful components? Ten all-new Quests, including three "solo" Quests and a "double" Quest. The solo Quests are actually intended for use with one player as the Elf against another player as Zargon. The double Quest is an unusually long and seemingly endless adventure, in which Heroes aren't allowed the luxury of returning to their homes to recuperate between Quests. Through it all, the theme is primarily centered around the rescue of an Elven princess and the retrieval of a few artifacts. These Quests are quite a bit tougher than those presented in the basic set; the designers are definitely expecting a strong breed of Heroes! One rationale for the solo Quests, however, is to allow a novice player the opportunity to build up a newly created Hero over the course of a few short adventures. Missing from these Quests in my opinion are some of the creative uses of the game board exemplified by the Quests in the basic set. I've always been fond of the "random rooms" of Castle of Mystery, for example. But not to worry! These Quests are packed with enough encounters and treasure to keep your players coming back for more. And many of the new monsters will wipe that smug grin off the face of the Dwarf player who has six Defend dice (Can you say Ogres have ten Body Points? I knew you could!).

Some new rules are also introduced in the *Quest Pack for the Elf*. Mind Points, almost completely overlooked in the core rules, are used fairly extensively in this set. Multiple new Chaos spells affect or utilize a Hero's Mind Points, as does one of the new Artifacts. Some of the most intriguing rules additions, however, revolve around Werewolves. In some Quests, the Giant Wolves are actually Werewolves. When attacked by a Werewolf or the related new Chaos spell, a Hero may turn into a Werewolf, dropping all his possessions on the game board and

coming under the control of the Zargon player! Heroes can, of course, change back and forth from turn to turn, until cured. This could make for a very interesting Quest indeed!

Overall, the *Quest Pack for the Elf* is a worthy addition to the *HeroQuest* game, and a great improvement over the previous *Kellar's Keep* and *Return of the Witch Lord* Quest Packs. Like all *HeroQuest* items, this one is out-of-print, so snatch up a copy if you find one!

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HeroQuest Hall of Foes
Copyright 1995 by Carl Forhan

Buzzsaw, Orc Chieftan

Movement Squares:	8	Body Points:	3
Attack Dice:	3/3	Mind Points:	1
Defend Dice:	3		

Buzzsaw won't go down in history as the wisest Orc to ever be Chieftan to the Thunderfoot Clan, but he's certainly the most agile. In fact, his uncanny speed allows him to attack twice per turn. If both attacks are centered on one foe, Zargon rolls six Attack Dice. If the attacks are split against two adjacent foes, Zargon rolls three Attack Dice against each.

Buzzsaw is, in fact, a coward, and as such he always seeks out the Hero with the least Defend Dice and directs at least one attack towards that Hero if possible. He is also very likely to have several bodyguards around, typically three to four Orcs but possibly a Fimir or Chaos Warrior or two (Zargon's choice). If the battle does not seem to be going his way, Buzzsaw makes a bee-line for the nearest escape route. If one is not available, Buzzsaw will surrender to the Heroes if he is ever reduced to one Body Point. (Note: decide what alternatives are available to the Heroes once Buzzsaw surrenders, such as showing mercy, taking him prisoner, etc.)

Vermin, Goblin Warlock

Movement Squares:	10	Body Points:	3
Attack Dice:	2	Mind Points:	3
Defend Dice:	2		

Very few Goblins learn to read and write, let alone master the intricacies of Magic. Vermin is one of those select few with a keen intellect and the drive to pursue such a goal. After many years of study in the Kellar mountains, he has reached his goal.

He has an intense hatred of Orcs, and would even aid the Heroes temporarily if he sees them fighting any Orcs. Thus, Zargon may wish to set up a special encounter in a Quest along these lines. For example, perhaps the Heroes stumble across a room full of a few Goblins and many Orcs -- only to discover that they're fighting each other! What will the Heroes do? Are the Goblins genuinely in need? Or is it a trap to catch the Heroes off guard?

Vermin knows the following spells:
Lightning Bolt / Rust / Sleep

Converting *Artifact* for
Miniatures Play
by Michael Friend

In all the twenty plus years
of science fiction wargaming I
know of only three games that at-
tempt to portray tactical combat
on the Lunar surface. Those
three games are Task Force Games'
Moonbase Clavius, Yaquinto's *Ma-
rine: 2002* and of course Meta-
gaming's *Artifact*. Miniatures
gaming by its very nature is
tactical in scope so the best
type of board games to convert to
miniatures use are the man-to-man
and small unit games. Since the
majority of the Micros are tac-
tical exercises *Artifact* is an
excellent game for such a conver-
sion attempt.

Land-based games aren't quite
as difficult to convert as naval
games but each one has it's own
unique problem to solve, and *Ar-
tifact* was no exception. If my
conversion of *Fire When Ready* in
the last issue whetted your appe-
tite for miniatures play, then
this next exercise should help to
alleviate some of those gnawing
hunger pains.

FIGURES AND MODELS

The two most popular sizes for
individual humanoid figures in
the fantasy and science fiction
genres are 25mm and 15mm. Fig-
ures for historical gaming are
made in those two sizes plus four
more: 22mm, 20mm, 10mm and 5 or
6mm. To my limited knowledge
fantasy and science fiction fig-
ures are not being made in the
latter four sizes, so anyone who
wants to play science fiction
miniatures is limited to 25mm and
15mm figures. The 25mm figures
became standard rather quickly,
especially with the early popu-
larity of *Dungeons & Dragons*,
while the 15mm figures were in-
troduced somewhat later and took
a while to catch on. As a side
note, one of the first companies
to produce 15mm figures, Martian

Metals, used to advertise in the
old <u>Space Gamer</u>. Since I haven't
seen Martian Metals products
displayed in any recent gaming
catalogs I assume they went out
of business several years ago.
But no matter, other companies
sprang up to take their place.

As mentioned in the previous
article it is necessary to ac-
quire the appropriate figures for
the subject at hand. If you're
trying to make a game on an ob-
scure or little known war or time
period, you'll have to look a
little harder to find the right
products. But before we start
searching for figures we need to
know what to look for.

In *Artifact* the counter selec-
tion gives both the Americans and
Soviets equal forces. Both sides
have: 8 Sci-Techs, 9 Mil-Techs, 3
Scientific Rovers, 3 Military
Rovers, 2 Scientific Landers and
2 Military Landers. This gives a
total for all types of: 16 Sci-
Techs, 18 Mil-techs (for a grand
total of 34 individual Techni-
cians of both types), 6 Scien-
tific Rovers, 6 Military Rovers,
4 Scientific Landers and 4 Mili-
tary Landers. And don't forget
the Aliens either. There are 6
individual Aliens, 1 Alien Lander
and 1 Alien Dingus.

Now that we know the number
and type of figures needed we can
finally do some informed shop-
ping. The figures should be out-
fitted in traditional spacesuits
and helmets or armored space-
suits. They should also be car-
rying a gun, such as a laser
rifle, if possible. If both
styles can be acquired then the
spacesuited figures can be desig-
nated as the Sci-Techs while the
armored figures will be the Mil-
Techs. If only one style is
available then they must be
marked somehow to designate which
type of Technician they repre-
sent. This can be done by paint-
ing them different colors or
writing a code letter on their
base. Be sure to designate,
again by different colors, the

American and the Soviet forces. Since these figures represent individual people, they should be based singly, rather that in groups of three, four or five as required by many historical miniatures rules.

You can have a little more fun with the aliens by purchasing any of the monsters made for the fantasy role playing games. Such a wide range of creatures exist that you should have no trouble finding something that looks menacing and weird enough.

The next part will require a bit of creativity and take some time. I don't know of any miniatures company that produces anything that could be used as a lunar rover. I'm well aware that a variety of vehicles are available for such games as *Battletech*, *Warhammer 40K* and *Ogre*, but none of those vehicles even remotely resemble the rover silhouettes printed on the *Artifact* counters. At this point then you will have to actually build your own little Scientific and Military Rovers, making them as close to the scale of the figures you bought (25mm or 15mm) as possible. I can't give you any plans here but if you want to make simple and quick models then the counter silhouettes should be a good starting guide. Recommended building materials are balsa wood, bass wood or plastic. These are available at most hobby and art supply stores. If you want to save money then you can probably make acceptable rover models from discarded materials and packaging from home or work. Use your imagination. Part of the fun of miniatures is painting the figures and building the vehicles, terrain and structures for use with the different rules sets.

As for the Landers you could either buy some of the latest spaceship miniatures or build your own just like the Rovers. Also, since the Landers can fly in this game, it is important to make simple stands to raise the Landers off the table when they are represented as flying. When they land simply remove them from their stands and set them on the table.

TERRAIN

Unlike the miniatures conversion of *Fire When Ready*, *Artifact* will need to have some terrain made for it. The board game version has only six terrain types and these are easy and cheap to reproduce.

To represent the clear area of the board an old white bedsheet can be tacked, stapled or taped to the table to keep it from shifting during play. A realistic touch would be to dye the sheet grey or light brown to simulate the lunar landscape colors. Other shades of grey or brown could then be splattered or sprinkled on the sheet to give it additional texture.

Rough terrain can be made by cutting thin cardboard or heavy paper stock into different sizes and odd shapes (not necessarily hexagons!), smearing one side of each piece with glue and then sprinkling them with loose gravel or any other type of pebble-like material. After the glue dries the gravel can be painted in various shades of grey, brown or combinations thereof.

Hills can easily be made by fashioning modeling clay in the appropriate shapes or by taking discarded chunks of styrofoam or urethane foam and carving them into the shape of hills and ridges. These can then be painted in the same colors used to paint the rough terrain. Again, as in the case of rough terrain, the hills can be any size or shape you desire.

To make craterlets or large crater walls, even larger pieces of foam can be carved into rings with sloping ridges to simulate the rugged circular shapes of lunar craters. The crater walls

could also be made in large or small curved sections so that they could be combined with the smaller craterlets and thus allow you to reproduce the large crater printed on the *Artifact* map.

Still another way to make craters, if you're willing to pay a little more, is to use the styrofoam rings and balls available at craft stores and cut and carve them into shape. The rings are available as large as a foot in diameter while the balls come as big as four to six inches in diameter. The balls are especially nice because you can slice them into several circles and then carve them into a nice selection of different diameter craterlets. Whichever method you decide to use (maybe both) don't forget to paint your new craters as well.

SCALE

Players are given two choices when attempting to convert the hex scale of a board game to a miniatures scale. If an individual hex represents a small area then it's possible to calculate a miniatures scale that would work with the scale of the figures being used. But if the hex represents a substantially larger area then the scale of the figures and size of the table to be used would preclude the use of an actual conversion scale. In that case a compromise would be necessary to allow the game to be comfortably played on the available table. I was able to use the first method for *Fire When Ready* but had to use the second method for *Artifact*. Please allow me to explain.

On the map each hex represents an area one half kilometer across and each turn is about three minutes long. Half a kilometer is 500 meters, which also translates to .3107 miles, or 547 yards, or 1640.5 feet or 19,686 inches. The game board is twenty-three hexes long grain by twenty-three hexes cross grain.

The length of just one side is twenty-three hexes multiplied by .5 kilometers, which equals 11.5 kilometers, or 7.146 miles, or 12,581 yards, or 37,731.5 feet or 452,778 inches. That comes out to 51.07 square miles, a rather large area to convert to a scale that will comfortably fit on your average miniatures gaming table!

After I performed the above calculations I realized that I wouldn't be able to do an exact conversion for the scale of the figures I'd be using. 25mm figures are approximately 1:72 scale. That means that one inch in the figure scale equals seventy-two inches in reality. Dividing 452,778 inches (the length of one side of the game board) by seventy-two equals approximately 6,289 inches or 524 feet in 25mm scale. I would need to find a playing area 524 feet by 524 feet! I don't think even the local high school gymnasium is that large. Obviously I'd have to reduce my miniatures scale considerably or just devise some movement allowances and firing ranges that would fit on the various sized tables our local miniatures gaming group uses.

So for the sake of expediency I decided to use the second method. In games with a smaller hex scale I probably could have stayed closer to the miniature figure scale, but that's just not possible when one board hex represents an area 500 meters across. That's just too large a distance to convert. (Note: *Marine: 2002* also uses the same hex scale, 1 hex equals 500 meters, so I'd probably treat it the same way as *Artifact* if I were to convert it.)

For those who are curious about such things, I calculated that Technicians travelling at their full two hexes per turn were moving at 12.43 MPH, Scientific and Military Rovers had top speeds of 24.85 and 31.07 MPH respectively, and Aliens as well

as jumping Mil-Techs zipped along at 37.28 MPH. The only way I could reduce those speeds to manageable levels was to reduce the length of the game turn to mere seconds instead of three minutes. I eventually decided to fudge it and concentrate on making sure the game was fun and easy to play in miniatures form rather than being a stickler for accuracy.

MOVEMENT AND RANGE

After doing the research and analyzing the results I decided on a simple system of allowing one hex of movement or range on the game board to equal a certain number of inches on the miniatures table. For example, one of the tables our miniatures group uses is an old Ping Pong table that is 5' by 9' (60" by 108"), while another is made from four old panel doors placed side by side on a table frame made from 2" by 4"s and measuring 6' by 12' (72" by 144"). Other standard table sizes are one 4' by 8' panel of plywood (48" by 96") or two panels of plywood placed side by side to measure 8' by 8' (96" by 96"). For play areas of those sizes I could use the following "hex to inches" conversions -

1 hex = 2 inches
1 hex = 3 inches
1 hex = 4 inches
1 hex = 5 inches

The 1 hex = 5 inches "scale" (as well as the smaller scales) could be used comfortably on the 6' by 12' and Ping Pong table, while the 1 hex = 4 inches "scale" (as well as the smaller scales) could be used on the plywood sheets. For this article I'll use the 1 hex = 3 inches "scale" and show how to convert movement, combat, charts and rules to this measurement.

Maximum movement rates for the board game are as follows: 2 hexes per turn for Sci-Techs and Mil-Techs, 4 hexes per turn for the Scientific Rover, 5 hexes per turn for the Military Rover and 6 hexes per turn for Alien Troops and jumping Mil-Techs. These rates must now be translated into inches of movement per turn. For our 1 hex = 3 inches scale those rates become:

1 hex = 3 inches of movement
2 hexes = 6 inches of movement
3 hexes = 9 inches of movement
4 hexes = 12 inches of movement
5 hexes = 15 inches of movement
6 hexes = 18 inches of movement

So, for example, the Techs on foot can move up to a maximum of 6 inches per turn and the Military Rover can move up to a maximum of 15 inches per turn. Just as in the board game the units are never required to move their maximum movement allowance every turn. They can always move less or not at all. It's also not necessary for them to move in increments of three inches. If a player wants to make a Scientific Rover move only 10 inches instead of its full allowance of 12 inches, that's perfectly fine. In miniatures gaming the players have a much greater control over the movement of their units.

Three of the charts must be altered to accommodate the conversion, Terrain Effects (15.1), Targeting (15.3) and To Hit (15.4). The two easiest charts to change are Targeting and To Hit. The numbers representing the range in hexes (from 0 to 10) have to be changed to their equivalent distances in inches. Hex ranges 1 through 6 have already been converted so the last changes are as follows:

7 hexes = 21 inches of range
8 hexes = 24 inches of range
9 hexes = 27 inches of range
10 hexes = 30 inches of range

The 0 hex range on the charts represents enemy units occupying the same hex. In miniatures this is represented by the opposing

figures or vehicles actually touching each other or less than three inches apart. If they are three inches or greater apart then they are treated as if they were the next furthest range away. A couple examples will show how this works.

1) A Mil-Tech is attempting to target an enemy unit exactly 9 inches away. Since, for our chosen scale, 9 inches is equivalent to 3 hexes, the Mil-Tech must roll a 1 - 2 on the Targeting chart for a successful targeting attempt.

2) After making a successful targeting roll, a unit attempts to hit an enemy unit with a rocket. The enemy unit is 13 inches away. Since the 13 inch range is between the 12 inch (4 hex) range and the 15 inch (5 hex) range, the player must use the next higher, or 15 inch, range. Instead of rolling a 1 - 3 as for the 12 inch (4 hex) range, he must instead attempt to roll the more difficult 1 - 2 for the 15 inch (5 hex) range. Both charts (Targeting and To Hit) are thus treated in the same manner.

Terrain effects have to be altered as well. Since the Landers are either flying over the landscape (and thus immune to terrain effects) or landed immobile on the ground, we'll concentrate on how Techs and Rovers are affected. Luckily terrain doesn't affect movement very much (though it still affects line of sight).

In the board game Rovers must expend 3 movement points when moving into a rough hex (while Techs only need to expend 1 movement point). This implies that a Rover has a great deal more difficulty moving through this type of terrain than a Tech does, and isn't able to move as far as a Tech in the same amount of time. This concept is easily translated for miniatures by reducing the distance that Rovers can travel in rough terrain. While moving

through clear terrain and over hills a Rover can move up to 3 inches for every 1 movement point it expends. But a Rover moving into and through rough terrain can only move 1 inch for every 1 movement point it expends.

For example, the Military Rover (with an MA of 5), A) can normally move a maximum of 15 inches (5 hexes) in clear terrain. B) If the Rover begins its movement 6 inches or less from rough terrain, expending 2 MPs to move those 6 inches, it may only move another 3 inches (moving 1 inch for each of its remaining 3 MPs) through that rough terrain. C) If the Rover were to begin movement 8 inches away from the rough terrain it would expend 2 2/3 MPs to reach the rough, leaving 2 1/3 MPs remaining to move 2 1/3 inches through the rough. D) A Rover 5 inches away from rough expends 1 2/3 MPs to reach the rough, leaving 3 1/3 MPs remaining to move 3 1/3 inches through the rough.
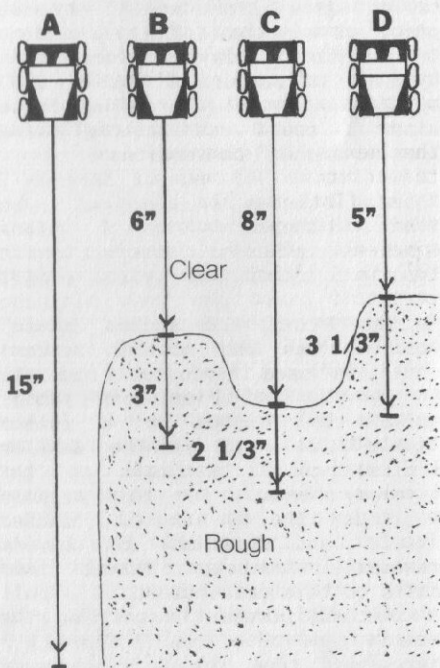
A Rover in rough terrain E) can move 3 inches (3 MPs) towards clear terrain and continue moving another 6 inches (2 MPs) through the clear. F) A Rover 4 inches away from clear terrain expends 4 MPs to move towards the clear and then another 3 inches through the clear with its remaining 1 MP. G) Finally, a Rover can move a maximum of 5 inches through rough, expending 1 MP per inch.
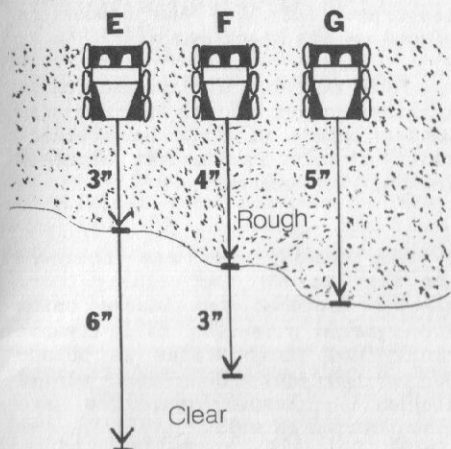

All units must end movement upon reaching a craterlet, no matter how close they were to it at the beginning of the turn. In the next turn they may move into the craterlet, and on the turn after that they may finally leave the craterlet, continuing normal movement. Techs treat large crater walls the same way as craterlets.

RULES CHANGES

5.0 Line of Sight In miniatures the players have the luxury of being able to observe a true LOS in 3-D. If a hill or other blocking terrain is in the line of sight then it will be very evident. Continue following the regular rules for tracing LOS into, out of and through terrain. A unit should be considered adjacent to craterlets and large crater walls (5.4 and 5.5) if it is less than three inches from them.

If an LOS is traced exactly along the edge of blocking terrain then the referee decides if the LOS is good or not. The Lunar Horizon of section 5.8 is 12 inches for non-flying units not on hills, and 18 inches for units sighting from hills to the ground or between hilltops.

6.0 Movement Some guidelines must be made for stacking and loading Rovers and Landers. For purposes of rule 6.3, units are considered to be stacked together if H) they are all touching or I) less than 3 inches apart in a small, compact group. J) If they are all strung out in a line then they are not considered to be stacked together. In such a case only any two adjacent units could be considered "stacked" together.
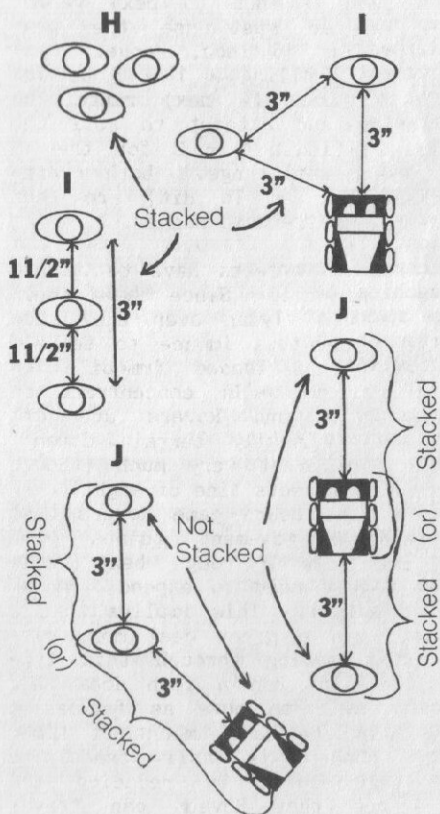
In section 6.8.2 (Loading) it is mentioned that units must occupy the same hex to load. For miniatures this means that the units in question must be either touching or less than three inches apart before they can be loaded. Likewise, in 6.8.4 (Unloading) when a unit unloads it is placed adjacent to or less than three inches away from the transporting unit as it unloads, and though the transport may continue its movement, the unloaded units can't move from their unloaded positions until the next turn.

7.0 Targeting It is suggested that to indicate successful targeting attempts on enemy units players use either the targeting markers from the game or make their own markers. In 7.6 an enemy unit is considered to be contagiously targeted if it ends movement less than three inches from a unit that has already been targeted.

8.0 Combat Changing the Targeting and To Hit charts has already been mentioned. In addition, in 8.3 friendly Techs can exchange weapons if they are touching or less than three inches apart at the beginning of the Movement phase. For 8.5 use the guidelines given above for rule 6.3 to determine if units are "stacked" together when attacked by mortars or rockets. To indicate that a unit is damaged for 8.4.2 and 8.8 (and also 11.4), place a pre-designated marker (blank counter, coin, etc.) next to it. Remove the marker when the damage effects are negated at the beginning of the next turn.

9.0 Hand-to-Hand Combat To engage in hand-to-hand combat, Techs on foot must actually be touching each other, not just less than three inches apart as in other cases.

11.0 Landers To indicate that a Lander is in flight (as opposed to being grounded), the Lander model should be mounted on a special stand that raises it a few inches from the surface of the table. (You'll have to make your own stands, just like you'll probably have to make your own Lander models). For 11.2 the Lander is removed from the stand and placed in position on the table and for 11.3 the Lander is placed on its stand again.

13.0 Aliens The Alien Troops killing sphere of 13.1.1 and the Lander sphere of 13.2 have attack radii of six inches and eighteen inches, respectively.

All other rules are followed the same as for the regular board game. . Captured and loaded units are removed from the table temporarily and their status is notated on the apropriate unit status display. Weapon exchanges are also notated as well.

I admit that converting *Artifact* will take a little time and a minimal amount of money to acquire the figures and make the rovers and landers and make or buy the terrain pieces, but I guarantee that you'll consider it to be a worth while effort after you and your gaming buddies have spent many enjoyable hours battling over your own lunar terrain right here on Earth. The thing that makes miniatures play of this game so much more interesting is that you can set up the terrain pieces in any combination you wish and create an almost infinite variety of boards to play on. You just can't do that with board games!

Preliminary counter design for my upcoming game of science fiction armored combat. Created for me by Carl Forhan as an experiment & example.

Metagaming Chronology Update

One of my readers has kindly supplied me with some material to partially correct my Metagaming chronology in the last issue. Paul Meyer (yes, Crazy Egor himself) sent me photocopied pages from a book about the history of RPGs, Heroic Worlds, by Lawrence Schick. Due to the subject matter of the book the corrections will only apply to the Metagaming RPG products, but every little bit helps. Thanks, Paul.

It was also suggested that I list descriptions of the type of packaging, contents, number of pages in the rules book, etc., but I decided against doing that. My original intention was to emulate the SPI chronology that Lou Zocchi and Greg Costikyan compiled a few years ago, and since they didn't list game descriptions neither did I. Also, I did not want to use any more valuable pages in the magazine than I had to. Maybe someday (in the distant future) I can publish a detailed listing of all the Metagaming products in a separate pamphlet.

Here are the corrections (in my condensed format):

Melee four editions (1977, 1978, 1979 and 1980)
    Designer: Steve Jackson

Wizard three editions (1977, 1979 and 1980)
    Designer: Steve Jackson

Death Test three editions (1978, 1978 and 1980)
    Designer: Steve Jackson

Death Test 2 (1980)
    Designer: Steve Jackson
    (definitely)

Security Station (1980) or (1981)
    Designer: John W. Colbert
    Note: There's a slight inconsistency here. My copy of the quest says it was copyrighted in 1980, but the Heroic Worlds book gives a date of 1981. Which to believe? Maybe it was copyrighted in 1980 but not actually released until 1981. That's a plausible explanation.

Orbquest (1982)
    Designer: Paul C. Wagner

Tollenkar's Lair (1980)
    Designer: Steve Jackson

Warrior Lords of Darok (1982)
    Designers: Richard Meyer and Kerry Lloyd
    Note: Technically this was not a Metagaming product. In Interplay #5 it was announced that Gamelords Ltd. was contracting to produce *TFT* modules under the series title of *Land Beyond the Mountains*. *Darok* was the first module in that series, followed by *Forest Lords of Dihad* (again by Richard Meyer) later that same year. Two other modules were planned but probably never released. *The Something Somethings of Shaylle* was announced in Interplay #7 while *Khitin's Hive*, with a release date of 10/82, was listed on a Metagaming order form dated February 1982. As far as I know neither of these latter two modules were ever produced.

VAPORWARE
    The last time that *Conquerors of Underearth* (the first adventure module in the *Dragons of Underearth* series) was mentioned was in Interplay #8, along with *Starleader: Warpships*, the spaceship combat module and companion to *Starleader: Assault!*
    Two other *TFT* expansion modules were announced (but never produced) way back in Interplay #3. *High Noon* (tentative title) was to be a western adaption, while *In the Name of Justice* was to be a superhero adaption. *High Noon* was never mentioned again, but *Justice* was still being hyped in the last Interplay, #8. Alas, so many potentially good products that never saw the light of day.

Metagaming Games For Sale

I've been able to acquire a small supply of Metagaming games and am offering them for sale *at their original retail prices*. In most instances I have only one copy of each game so it is obviously first come, first served.

If you order a copy of a game that I've already sold to someone else, I could do one of several things, as per your instructions. 1) I could keep your money and as soon as I get another copy of that game I'll send it to you. 2) I could send you an alternate game if you have it listed on your order. 3) I could return your money and you could reorder at a later date. Whichever method you wish to use please notate it on your order.

As my stock of games is sold and replenished I'll continually update it in each new issue of **Vindicator**. So something that is not listed in one issue may very well appear in a later issue.

Also, after I examined these games I discovered that a few had missing counters while others were slightly damaged or had some wear. A short description follows each listing.

For shipping, please add $.50 for every two Microgames and $1.00 for every larger game. Please make the check out to me, Michael Friend.

Chitin: I 1st edition, counters uncut, $2.95

Melee 4th boxed edition with major rules changes, some counters cut apart, $3.95

WarpWar 3rd printing, boxed edition, rules have been highlighted in yellow magic marker, counters cut apart, $3.95

Rivets 2nd edition (boxed), side of box crushed, counters uncut, $3.95

Olympica 3 copies –
1) 1st edition, counters uncut, $2.95
2) 2nd edition, counters uncut, $2.95
3) 2nd edition, counters uncut, $2.95

Ice War counter sheet cut into strips, no bag, $2.95

Black Hole counters cut apart, no bag, $2.95

Holy War counter sheet cut into strips, no bag, $2.95

Annihilator/One World 2 copies –
1) counters uncut, errata taped into and handwritten in booklet, $2.95
2) counters cut apart, errata taped into booklet, no bag, $2.95

Hot Spot counters uncut, no bag, $2.95

The Lords of Underearth counters uncut, couple pages of booklet bent, lower end of box partially crushed, $3.95

Helltank counters uncut, $3.95

The Air-Eaters Strike Back! counters cut apart, $7.95

Hitler's War 2 copies –
1) counters uncut, marshes around Leningrad and Pripyet marshes hand drawn in by previous owner, $7.95
2) counters cut apart, army record sheets are photocopies, rules highlighted in orange magic marker, rule book cover dirty (was stepped on!), $7.95

The Trojan War counters cut apart, missing two "Stun" and one "Wound" marker, $7.95

The Ythri 1st edition!, mint condition, counters uncut, errata from 2nd edition included, $8.00